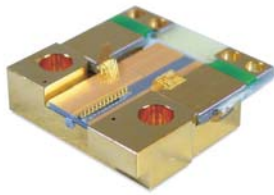




LU09xxFyyy 9xxnm Laser Diode on F-Mount Up to 16W c.w. and 30W in pulsed mode



Description:

The LU09xxFyyy series laser diodes contains a highly optimized GaInAs/GaAs quantum well laser structure on GaAs substrate. Long lifetime is achieved through the Lumics proprietary laser diode facet passivation technology. The process includes careful design, precisely defined manufacturing and extensive burn-in testing of each individual emitter. The device qualification includes life time testing and a set of thermal and mechanical tests.

Each laser diode chip is individually serialized for traceability, and is shipped with a specified set of test data. Applications are mainly in solid state laser pumping, illumination, printing or medical treatment.

Features & Functions:

- Wavelength 915, 940 or 975nm
- Up to 16W c.w. operation
- Up to 30W pulsed peak power
- 94µm or 190µm emitter width
- Burn-in tested single emitter
- 2.2mm mounting holes
- Copper base
- Electrically isolated
- Option: FAC lens

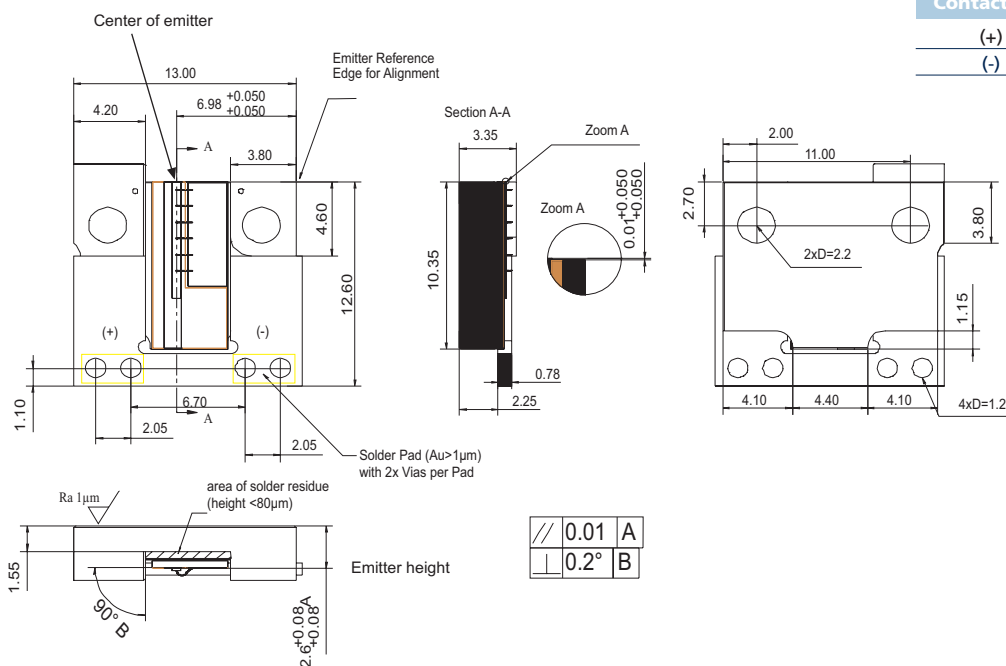
Benefits:

- Small footprint
- Efficient heat sink
- High reliability
- OEM quantities

Applications:

- Pumping (SSL)
- Plastic welding
- Marking
- Illumination
- Medical treatment

Drawing (dimensions in mm)



Connections

Contact Pad	Function
(+)	LD Anode (+)
(-)	LD Cathode (-)

Your ideas are welcome.

Typical Electrical and Optical Characteristics

Parameter	Symbol	LU09xxF120	LU09xxF160	Unit
Emitter Width	W	94	190	µm
c.w. Operating Power	P _{Op (c.w.)}	12	16	W
c.w. Operating Current	I _{Op (c.w.)}	13	17.7	A
Pulsed (1) Operating Power	P _{Op (< 30µsec pulse / < 30% d.c.)}	15	30	W
Pulsed (1) Operating Current	I _{Op (< 30µsec pulse / < 30% d.c.)}	16.8	32.5	A
Threshold Current	I _{th}	500	980	mA
Forward Voltage	V _{Op}	2	2	V
Slope Efficiency	λ _{diff}	0.95	0.95	W / A
Peak Wavelength	LU0915Fyyy: λ _{peak}	915+/-10	915+/-10	nm
	LU0940Fyyy: λ _{peak}	940+/-10	940+/-10	nm
	LU0975Fyyy: λ _{peak}	975+/-10	975+/-10	nm
Spectral Width (FWHM)	λ _{rms}	4	4	nm
Beam Divergence (horizontal) ₍₂₎	slow axis	7	7	deg
Beam Divergence (vertical) ₍₂₎	fast axis	27	27	deg
AR Reflectivity ₍₃₎	r _f	2	2	%
HR Reflectivity	r _r	95	95	%
Spectral Shift with Temp.	λ _{T_Shift}	0.3	0.3	nm / K
Spectral Shift with Current	λ _{P_Shift}	0.5	0.5	nm / A
Operating Temp.	T _{Op}	20 - 30	20-30	°C
Option: FAC lense				
Fast axis (vertical) divergence	NA	< 3	< 3	mrad
Vertical width of the beam		< 0.8	< 0.8	mm

Important Notes:

- (1) Typical pulse condition: pulse <10µsec / d.c. 1%
- (2) FWHM at P_{Op}
- (3) Other coatings are offered on request

Absolute Maximum Ratings

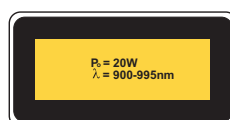
Parameter	Symbol	LU09xxF120	LU09xxF160	Unit
LD c.w. Forward Current	I _{Op, (c.w.) max}	15	20	A
LD pulsed (<30µsec) Forward Current	I _{Op, (pulsed) max}	18	34	A
LD Reverse Voltage	V _{R, max}	2	2	V
Maximum Processing Temp. _{max. 10sec}	T _{Op, Processing max}	170	170	°C
Rel. Humidity, Storage Temperature and Operating Heat Sink Temperature ₍₁₎				

Note:

Absolute Maximum Ratings may be applied to the laser module for short periode of time only. Exposure to maximum ratings for extended period of time or exposure above one or more max ratings may cause damage or affect the reliability of the device.

Operating Temperature and Rel. Humidity must be choosen such that the dewpoint of humid air around the laser diode is below the operating heat sink temperature to avoid condensing of water on the laser diode facet.

User Safety



Your ideas are welcome.